R E M A R K S

Reconsideration of the above-identified patent application is respectfully requested in view of the foregoing amendments and following remarks. Claims 1, 2, 4, 5, 12, 13, 15, and 16 have been amended. Claims 1 - 22 remain in the application.

Applicant's undersigned attorney hereby affirms that, in response to the Restriction Requirement of June 5, 2003 (Paper No. 2), group I (claims 1 - 7 and 12 - 18) were provisionally elected with traverse.

The above-identified patent application relates to a thermoforming method of fabricating three-dimensional solids that have a seamless depression or projection capable of holding liquid and that simulate natural materials, such as stone, granite, or marble. As such, Applicants respectfully believe that all claims are related and can be searched in the same class. Examiner Lee believes that the product recited in claims 8 - 11 and 19 - 22 can be made by another and

materially different process, such as compression molding a sheet of solid surface material.

Applicants would like to point out, however, that the product recited is a bowl/sink *and* flange unit, comprising one solid piece. All cited prior art discloses products comprised solely of a bowl/sink unit that does not include a flange, but instead must be chemically welded or attached in a similar fashion to the flange or countertop surface. This indicates that the single unit bowl/sink and counter, as one piece, in fact *cannot* be made by another and materially different process.

The Examiner objected to the use of quotation marks as inappropriate. These informalities were noted on pages 1, 2, 4, 7, and 8 - 20. Applicants thank the Examiner for his observations, and in accordance with them, the specification has been amended on pages 1, 2, 4, 7, and 8 - 20, and the objections are thus traversed.

Claims 1, 2, 4, 5, 6, 7, 12, 13, 15, 16, 17, and 18 are rejected under 35 U.S.C. §102(b) as being anticipated by

United States Patent No. 6,083,339, issued on July 4, 2000 to Chris R. Peters et al. for BOWLS COMPRISING ACRYLIC PLASTICS FILLED WITH ALUMINA TRIHYDRATE, AND PROCESSES FOR MAKING SAME. PETERS et al. also disclose a process for producing durable three-dimensional bowls such as water basins comprising acrylic plastics heavily filled with alumina trihydrate. The PETERS process and Applicants' method both include the use of identical material and a female mold, but that is the extent of the similarities.

The use of identical material is inconsequential. Such materials (i.e., an acrylic material with a filler of alumina trihydrate of 20 to 85 percent by weight) are well known and of standard use in the industry.

There are significant differences between the two methods, however, that distinguish Applicants' method from the PETERS process. The PETERS process requires that the blank from which the basin will be formed be cut in the approximate top outline shape before the blank is heated and placed in the molding unit. Applicants' method, on the other hand, has no such requirement, since the excess acrylic material around the

edges will be used to form the flange necessary in attaching the unit to a countertop or the like. The economic advantages of eliminating this step from the method are readily apparent, as it results in less preparation time and less cost through decreased man hours, and virtual elimination of wasted material.

The PETERS process also allows the blank to remain generally unrestrained, allowing the edges to move upward to minimize tension loads during forming. On the contrary, Applicants' method teaches the use of a minimal degree of restraint through the use of a retention or slip ring placed over and surrounding the periphery of the heated piece. The purpose of the ring is to cause the top of the shower pan flange portion to remain flat and wrinkle free, thereby creating the flange portion.

Although the PETERS process and Applicants' method do possess some similarities, the fact that Applicants make use of a retention ring, whereas PETERS does not, and Applicants' method results in the creation of a single unit including a flange, whereas the PETERS process does not, is significant

enough to distinguish the present invention from the prior art.

Claims 1, 2, 3, 4, 6, 7, 12, 13, 14, 15, 17, and 18 are rejected under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 5,074,770, issued on December 24, 1991 to Peter U. Graefe for INTEGRATED VACUUM FORMING/REACTION INJECTION MOLDING APPARATUS FOR MANUFACTURING A SHAPED POLYMERIC LAMINATE ARTICLE. The GRAEFE process also has several similarities to the present invention, but there are significant variations between the two that distinguish the present invention from the prior art.

The most notable differences are: GRAEFE incorporates a reaction injection molding process, whereas the present invention relies solely on the vacuum and mold; GRAEFE's process is for the formation of a shaped polymeric laminate article possessing a thermoplastic resin layer, whereas Applicants' invention is for a single layer product, not a laminate; and finally, GRAEFE utilizes various chemical compounds to either give the preform an adhesive coating or change the chemical composition of the material being molded.

Applicants' invention makes use of none of the aforementioned techniques, yet achieves the same results, thereby significantly reducing the complexity, time, and cost of the thermoplastic molding procedure.

Claim 5 is rejected under 35 U.S.C. §103(a) as being unpatentable over GRAEFE (United States Patent No. 5,074,770). Examiner Lee contends it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the solid surface material of PETERS for the acrylic material of GRAEFE in order to produce a more durable water basin; however, this is not the case.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q. 2d 1438 (Fed. Cir. 1991). A careful review of the prior art reveals that no such suggestion or motivation is present. GRAEFE lists many types of materials that could be used with

his particular molding process, none of which are equivalent to the material used in PETERS, acrylic/alumina trihydrate (Wilsonart®, Gibraltar®, SSV™, DuPont Corian®). According to the DuPont website, www.corian.com, sheets of Corian® to be used for horizontal surfaces should not be less than a 1/2 inch thick. GRAEFE invention would not be capable of thermoforming such a thick sheet of material, as is evidenced from the fact that GRAEFE method incorporates several reinforcing steps to build up the significantly thinner sheets of material intended to be used with GRAEFE process. As such, the use of Corian®, or similar materials, was not suggested in the disclosure.

PETERS further emphasizes the nonobviousness of using acrylic/alumina trihydrate as a vacuum thermoform material by the very fact that PETERS did not use a vacuum method to form the material. Instead, PETERS relies on a standard male/female mold system to form the material into the desired shape, requiring it to be trimmed at the edges upon cooling. PETERS patented his process almost nine years after GRAEFE was granted a patent. Had it been so obvious to use a vacuum forming process to shape acrylic/alumina trihydrate, PETERS

would have simply taken the material he was using, acrylic/alumina trihydrate, and draped it over GRAEFE's design. Instead, as was the case with GRAEFE, PETERS undoubtedly concluded that acrylic/alumina trihydrate was too thick a material to vacuum-form.

Because the first criteria to establish obviousness is not met, there is no obviousness, and therefore no need to analyze the remaining two criteria.

Claim 16 is rejected under 35 U.S.C. §103(a) as being unpatentable over GRAEFE as applied to claim 12 and further in view of PETERS et al. The rejection to claim 16 is traversed for the reasons discussed above in detail.

Examiner Lee contends that the prior art of both U.S. Patent No. 3,156,012, issued on November 10, 1964 to Michael Hritz for VACUUM MOLDING MACHINE and U.S. Patent No. 3,319,295, issued on May 16, 1967 to James Jones-Hinton et al. teach the state of the art of vacuum-forming acrylic sheets. This is not the case. Although both patents do teach methods of vacuum-forming material, they do so through the use of

substantially different methods. First of all, both patents require that the material be restrained at the edges during the whole heating and forming process. Applicants' method requires no such restraint.

Analyzing each patent separately, the JONES-HINTON et al. patent is not applicable, as it does not even concern vacuum forming. Although it is true that a vacuum is utilized in the vacuum, it is used only to prevent the sheet or formable material from sagging during the heating process. As such, the vacuum is a part of the upper portion of the invention and is used to reduce the pressure on the upper side of the sheet. Once the heating process is complete, the vacuum is removed and the material is shaped by the standard male molding procedure. At no point during the actual forming process is a vacuum implemented to obtain the final shape.

Conversely, the HRITZ patent does make use of a vacuum in the molding process. The plate that separates the formable material from the vacuum so as to establish the limit of deformity, however, comprises a perforated pattern throughout the plate and the male portion of the mold. Such a perforated

pattern would be sure to cause a degree of regular deformity throughout the finished product, as the pressure from above would force the material into the perforations. Applicants' invention, on the other hand, uses one hole at the vacuum location itself, which comprises a spring-loaded elevator that regulates the vacuum pressure. The top disc of the elevator closes over the hole when the pressure becomes too high, thereby preventing the material from being pushed even further into the vacuum and resulting in unwanted deformities.

A final distinction between the HRITZ patent and Applicants' invention is the requirement that the vacuum chamber in HRITZ operate in reverse to force the material off the mold. Applicants' invention does not require such a step. The invention does require that the material be cooled, allowing it to be removed from the mold. The absence of a negative pressure requirement only saves more time and money, improving the overall efficiency of the method.

In view of the foregoing amendments and remarks, Applicants respectfully request that claims 1 - 22 be allowed and that the application be passed to issue.

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On 8/26/03
(Date of Deposit)

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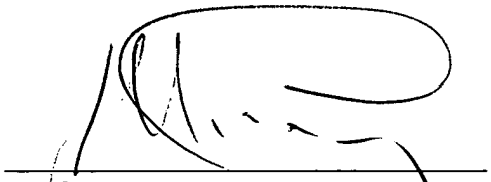
Respectfully submitted,



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